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CAPACITY-BUILDING WORKSHOP FOR NORTH AFRICA AND THE MIDDLE EAST ON THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB)
Beirut, 21–23 February 2012

# REPORT OF THE CAPACITY-BUILDING WORKSHOP FOR NORTH AFRICA AND THE MIDDLE EAST ON THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY

## I. INTRODUCTION

1. Further to requests by the Conference of the Parties at its tenth meeting, this workshop was one of a series of regional and subregional capacity-building workshops which seeks to support countries in the region to make use of the approaches, methodologies and tools suggested by the global studies on The Economics of Ecosystems and Biodiversity (TEEB), in integrating the values of biodiversity into relevant national and local policies, programmes and planning processes, thereby advancing the mainstreaming goal of the Strategic Plan for Biodiversity 2011-2020, and in exchanging practical experiences on incentive measures (decisions X/2 and X/44). It was organized by the Secretariat of the Convention on Biological Diversity, the United Nations Environment Programme (UNEP) through its Regional Office for West Asia (ROWA), and the United Nations Economic and Social Commission for West Asia (ESCWA), in close coordination with the UNEP TEEB Office, the League of Arab States (LAS), as well as the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and its regional project Silva Mediterranea CPMF, and in cooperation with the Helmholtz Centre for Environmental Research (UFZ). Financial support was provided by the Governments of Germany, Japan, Norway and Sweden, as well as the European Union. The workshop was hosted by the United Nations Economic and Social Commission for West Asia (ESCWA) at its premises in Beirut.

2. The specific objectives of the workshop were:

(a) To provide decision-makers in the region with economic arguments for the conservation and sustainable use of biodiversity, as well as with information on state-of-the-art tools that enhance the quality of decision-making processes regarding conservation and sustainable use, including on financial tools;

(b) To promote synergies and enhanced cooperation among relevant policy areas and sectors by mainstreaming biodiversity and ecosystem services;

/…

(c) To support the revision and review or update of national biodiversity strategy and action plans (NBSAPs) in light of the new Strategic Plan for Biodiversity 2011-2020 (paragraph 3 (c) of decision X/2,), in particular with regard to Aichi Targets 2 and 3, as well as other relevant Targets.

3. The workshop was attended by government-nominated officials from the Ministries of the Environment, and representatives from the finance, economic and development planning Ministries from: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Kuwait, Lebanon, Mauritania, Morocco, Sultanate of Oman, Kingdom of Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia and Yemen. Representatives of the Palestinian Authority also attended the meeting, as well as a representative from indigenous and local communities (ILCs). The following national, regional and international organizations were also represented: the Arab Center for the Study of Arid Zones and Dry Lands (ACSAD), the Arab League Educational, Scientific and Cultural Organization (ALESCO), the Desert Research Center (DRC), the Global Mechanism of the United Nations Convention to Combat Desertification (GM UNCCD), the Food and Agriculture Organization of the United Nations (FAO), Independent Economic Researchers, the Institute for European Environmental Policy (IEEP), the National Institute of Oceanography and Fisheries of Tunisia, the National Research Institute of Rural Engineering, Water and Forests of Tunisia (INRGREF), and the Helmholtz Centre for Environmental Research in Germany (UFZ).

4. The list of participants for the workshop can be found in annex I to the present report. The workshop was conducted in Arabic and English.

### *Opening and introduction*

5. The meeting was opened by the representative of the Executive Secretary, Mr. Markus Lehmann, at 8:30 a.m. on Tuesday, 21 February 2011.

6. Mr. Lehmann recalled the adoption of the Strategic Plan for Biodiversity 2011-2020 by the tenth meeting of the Conference of the Parties to the Convention, in October 2010, and noted that the new Strategic Plan put particular emphasis on addressing the underlying reasons for biodiversity loss by mainstreaming biodiversity across economic sectors and society. He noted the importance of economic approaches and methodologies as mainstreaming tools and the recent contributions of the global initiative on the Economics of Ecosystems and Biodiversity (TEEB) in raising awareness on the usefulness of such economic approaches. He recalled the pertinent requests of the Conference of the Parties to support countries in making use of the findings of the TEEB studies, including in their revisions of national biodiversity strategy and action plans with a view to align these, as appropriate, to the new Strategic Plan for Biodiversity.

7. Ms. Diane Klaimi (UNEP ROWA) emphasized that the countries in the Arab region had recognized the important economic role of biodiversity and ecosystem services, but that there was also a need for more regional TEEB-like projects with a view to support mainstreaming of biodiversity consideration in all economic sectors. Noting the important role of organizations in this regard, she recognized with appreciation the wide range of organizations represented at the meeting.

8. Mr. Ludwig Liagre of GIZ referred to the work of GIZ in the region to support countries in raising awareness of the important role of ecosystems for human well-being and to enhance conservation and sustainable use, including by strengthened application of economic valuation methodologies and policy tools.

9. Ms. Nermin Wafa from the League of Arab States (LAS) highlighted the need for innovative thinking in the Arab region on how to best strengthen policies for effective conservation and sustainable

use of biodiversity and associated ecosystem services, making particular reference to recent efforts to start incorporating biodiversity values into national accounts.

10. Ms. Roula Majdalani, director of the ESCWA Sustainable Development and Productivity Division, welcomed participants to ESCWA premises. She underlined that environmental protection was not a luxury and had to be properly embedded into sustainable development plans, and noted the usefulness of TEEB to showcase the economic importance of the environment.

11. As a general introduction into the topic of the workshop, Mr. Patrick ten Brink of the IEEP presented on the TEEB approach to the loss of biodiversity and ecosystem services. He recalled that the TEEB mandate originated at the G8+5 Environment Ministers meeting in Potsdam (2007) and eventually led to wide engagement, with over 500 contributors from across the globe. He underlined the persisting challenges associated with ongoing biodiversity loss, including the over-exploitation of fisheries, continued deforestation, and destruction of coral reefs, and explained that these challengers were perpetuated because the value of biodiversity and ecosystem services was not fully reflected in markets, price signals, and policies. He highlighted the importance of the Aichi Biodiversity Targets of the Strategic Plan for Biodiversity 2011-2020 as a global policy framework to address these challenges in a systematic manner.

12. In the subsequent discussion, participants addressed (i) *the conceptual basis*, noting that there was a number of drivers that created pressure on ecosystems and changed their functions and services, therefore impacting human well-being, and that understanding these interactions and valuation should guide policy decisions. There were various categories of ecosystem services whose values depended on diversity, quality and quantity, and a mix of monetary, quantitative, spatial, and qualitative information was therefore needed; (ii) *valuation and the evidence base*, noting that ecosystems could frequently provide goods and services at lower cost than man-made technological alternatives, that there were many possible decisions to take that affected different types of policies, and as such it was important to look for policy synergies as it would help convince a wider range of decision-makers; and (iii) *policy tools to respond to the challenge*, recognizing that there was no one-size fits all approach, but that Payments for Ecosystem Services (PES) and removal or reform of incentives, including subsidies, harmful for biodiversity were among the menu of possible policy tools.

## II. VALUING ECOSYSTEM SERVICES AND VALUATION

### *A. Valuation methods*

13. Mr. Augustin Berghofer of the Helmholtz Centre for Environmental Research Germany (UFZ) presented recent experiences with the economic valuation of ecosystem services in the context of TEEB. He emphasized that TEEB was not just about putting a monetary figure on ecosystem and their services – in many cases, this may simply not be possible, but that TEEB also sought to propose policy responses to use ecosystems and biodiversity in a manner that was sustainable, economically efficient and socially equitable. He highlighted the "TEEB approach" to economic valuation, comprising the three tiers of (i) recognizing value as a feature of all human societies and communities; (ii) demonstrating value, possibly in economic terms, with a view to support decision-making: and (iii) capturing value by introducing mechanisms that incorporated the values of ecosystems into decision-making. He explained that not all three tiers would be applied in all situations and for all ecosystem services.

14. He subsequently provided an overview of different valuation methodologies, including their general approach as well as their strengths and limitations: (i) direct market valuation approaches (market-price based, cost-based, or production function approaches); (ii) revealed preference approaches (travel cost or hedonic pricing approaches); (iii) stated preferences approaches (contingent valuation;

choice modelling); and (iv) benefits transfer (applying a value from one (or more) study site(s) to a different policy site). He also reviewed a number of non-economic tools (deliberative approaches such as focus groups or citizen juries; biophysical approaches addressing for instance 'insurance value' by identifying thresholds (critical natural capital) or flipping points (system analysis); or physical consumption metrics (energy flows, biomass)).

15. Participants reviewed the range of possible applications of valuation tools, including general awareness-raising and improving public decision-making with regard to cost effectiveness, clarification of trade-offs, and possible distributional impacts. It was recognized that highlighting the economic importance of ecosystem services was a critical step to transcended the frequent deadlock between development and conservation objectives, in particular if appraisal results were well-connected to actual decision-making and the implementation of policy tools. As ecology was complex and understanding limited, there were no absolute economic values of nature – they were place and time-specific estimates of our dependence or appreciation. Furthermore, value estimates could be constructed in various ways and the appraisal design needs to be adapted to national needs and circumstances.

### *B. Examples from the region*

16. Mr. Ludwig Liagre (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) provided an overview of recent valuation studies in the region. Recalling that there were different objectives of valuation, including both awareness-raising and advocacy for the need for policy action and related support, he presented a 2012 study expressing the costs of environmental degradation in Tunisia, Jordan, Iran, Morocco and Lebanon. Referring to the Morocco case, he underlined that support for enhanced and practical management of ecosystem services could be designed in a participatory manner, pointing to the design of compensation and PES schemes to combat overgrazing in Morocco as specific examples.

17. He also pointed to emerging opportunities to undertake valuation studies with a view to inform critical future policy decisions, such as on REDD + for Mediterranean forests and the provision of support for the policy choice in forestry management options in face of climate change in pilot areas of Morocco, Algeria, Lebanon, Turkey and Tunisia. He noted in this context that a TEEB regional conference was held in June 2011 in Tunisia that came out with a series of recommendations for decision-makers in the MENA region.

18. Mr. Hamed Daly of the National Research Institute of Rural Engineering, Water and Forests of Tunisia (INRGREF) gave a presentation on recent valuation studies of forest ecosystem services in Tunisia, in particular in the North (Barbra) and Center (Siliana) of the country. The study was financed by the FAO National Forest Programme (NFP) Facility and implemented by La Société des Sciences Naturelles de Tunisie (SSNT). Valuation methods used included the market price and cost-based methods as well as methods based on people's behaviour. Direct values covered included wood products (timber, fuel wood), non-wood, grazing, recreation and hunting, while indirect values included watershed protection (effect on reservoir sedimentation and crop production) and carbon sequestration. Social costs valued included forest fires illegal acts, and damage to wildlife. He noted that total economic value (TEV) estimates per hectare for the Barbra watershed were higher than for Siliana, with the local population being the main beneficiary and relatively lower benefits going to society at large and the global community.

19. In concluding, he noted that the studies showed that the traditional national accounting system was not adapted to forest ecosystem valuation, and that there was a continuing need for cumulative experience and research work in order to improve the reliability of forest values.

20. Mr. Mohammed Rida Fishar of the National Institute of Oceanography of Tunisia presented on the economic valuation of wetlands in the Arab Region. He noted that there were important types of wetlands in the Arab region offering different services. Human activities were a major threat to wetlands in the region (dams, pollution, drying and dredging), while natural threats included flooding and erosion. The challenges could be classified into five categories: limited national capacity, weakness of national policy, lack of financial and technical support, lack of information and poor local, regional and international cooperation.

21. He explained that valuation provided a powerful tool for the wise management and use of wetlands and could help justify public spending. The total economic value of wetlands included direct values (energy, agricultural production, shelter, foods, water supply, transport, recreational facilities), indirect values (maintenance of water quality, climate stabilization, flood control, shore protection, storm protection), but also option values (biodiversity, industrial applications, agricultural applications, pharmaceutical applications) and existence values (cultural significance, aesthetic significance, heritage significance, bequest significance). He subsequently referred to three case-studies, namely: Egypt's mangroves in Ras Mohamad and Nabq, Morocco's Merja Zerga Lagoon, and Tunisia's Sabkhet El Kelbia, and noted that the Egypt case-study concluded that the recreation value per hectare for mangroves at Ras Mohamad was among the highest in the world. This later case was further elaborated by the next speaker.

22. Mr. Rady Talaat Tawfik from Egypt presented on economic valuation of ecosystem benefits resulting from coral reefs in Ras Mohamed National Park in Egypt. Focus was given to the recreational values of the coral reefs because of the ecological significance the reefs in Ras Mohamed National Park, and because recreational benefits were thought to be the most important ones to the different stakeholders. An econometric model and regression analysis were applied to the results of a survey questionnaire addressed to tourists. Four techniques were used: zonal travel cost model, individual travel cost model, contingent valuation, and choice experiments.

23. Ms. Nermin Wafaa from the League of Arab States presented recent guidance to policy makers and an implementation programme on the economic valuation of wetlands, resulting from a workshop organized by the League of Arab States in 2009. The workshop adopted the so-called Cairo declaration and a regional plan for the preservation of wetlands, including the preparation of a regional pilot study on the economic value of some wetlands in the Arab countries. In December 2010, the Council of Arab Ministers Responsible for the Environment (CAMRE) approved the declaration, which led to the launching of an Arab TEEB initiative. Under the programme, detailed case studies will be conducted in six sites from six countries to be chosen according to the availability of data and information. Libya and Morocco have indicated their willingness to host a pilot International Symposium on "Water and Wetlands in the Mediterranean," organized in Agadir during February 6-8, 2012 which sent a strong message to Rio+20 on the importance of wetlands.

24. She also presented key findings of the Global Mediterranean Wetlands Outlook 2012, including the rate of achievement of water and wetland related targets of MDG 7. According to the data, Egypt, Libya, Morocco and Palestine are unlikely to achieve targets. She made specific reference to sustainable tourism and its role in increasing the value of wetlands, noting that well-managed wetland tourism can be very profitable throughout the value chain, with global success stories including Namibia, Slovenia, and Australia and success stories in the Arab region available for Morocco and Tunisia.

25. Throughout the session, participants raised, and speakers responded to, a number of technical questions pertaining to: (i) the adequacy of applying of specific valuation tools in specific circumstances and for specific ecosystem services; (ii) capacity preconditions for applying specific tools; (iii) reliability of underlying data and of valuation results; (iv) political impact of valuation results and how to improve it. Recurrent themes in the discussion included: (i) the need to tailor the design of valuation studies to the

decision making problem at hand and, in particular, that it is not needed in all circumstances to cover all components of total economic value; (ii) the need to strike a balance between the need to make the best out of limited data availability and quality, and the need for accuracy and reliability; and (iii) the need to have valuation studies well embedded in policy and decision making in order to achieve impact.

### *C. The TEEB stepwise approach*

26. Mr. Augustin Berghofer of the Helmholtz Centre for Environmental Research (UFZ) presented the TEEB stepwise approach to appraising nature's benefits. He explained that this approach was needs-driven, implying that appraisal methods would be chosen and adapted in accordance to the needs of decision makers. It was critical to agree on these needs at the beginning of the process. The individual steps were thus:

- Step 1: Agreement amongst all relevant stakeholders on the decision-making problem at hand;
- Step 2: Define which ecosystem services are most relevant in this context (e.g. if the agreed problem is deforestation, what are the key forest ecosystem services problems, and which ones are under threat?);
- Step 3: Define information needs and select appropriate methods. He cautioned that sophisticated methodologies are not necessarily the best ones in a specific context. Expectations need to be communicated clearly to valuation experts, and decision makers need to be clear what they want to know;
- Step 4: Undertake the actual assessment of ecosystem services, possibly, but not necessarily, by monetary valuation;
- Step 5: Look at possible policy responses and the policy instruments at hand;
- Step 6: Assess distributional impacts and implications for poverty alleviation.

27. He explained the application of the stepwise approach by providing a case example from Sri Lanka addressing traditional water management and identifying the best policy options for its improvement. In concluding, he recommended to: (i) gear the ecosystem service assessment to a particular issue/problem; (ii) connect it to potential policy responses and to not just focus on the data; (iii) pay attention to affected rights and to social impacts of ecosystem service changes, including in designing policy responses. As valuation exercises could be constructed in various ways, policymakers needed to be involved in guiding the process, understanding what was being measured and valued, and communicating assumptions and what the results could tell. Keeping values disaggregated would frequently be more useful for stakeholders, whose full and early involvement was also critical.

28. After the presentation, participants were invited to participate in an exercise by tables, applying the TEEB stepwise approach in a specific decision making problem, with reef conservation and wetland conversation as suggested cases but with the discretion being given to select another case. In line with the stepwise approach, each group was invited to develop answers to the following questions:

- Discuss and agree on decision making problem and possible stylized scenarios;
- Identify the most important ecosystem services associated with the case;
- Which indicators would you think are the most meaningful and practicable;
- If time allows, develop the scenarios in semi-quantitative terms.

29. Due to time constraints, groups could not fully develop scenarios, but elaborated the following examples:

- Case 1: Deforestation, with relevant ecosystem services being soil stabilization and erosion control, as well as air and water purification. Indicators could include: the cost of re-building infrastructure from landslides; (ii) health indicators; (iii) private costs of air purification; (iv) real estate

value differentials depending on proximity to urban parks. Stylized scenarios could be built on business as usual as well as various options to improve forestry management, possibly including payments for ecosystem services schemes.

- Case 2: Fisheries management – the issue being over-exploitation of fish stocks as main provisioning service, and high share of illegal fishing. Relevant indicators identified include the number of fishermen, working days per season, and quantify of catch. As regards policy options and potential scenarios, a need was identified to consider and develop alternative livelihoods or income sources, including a possible expansion of tourism activities, as a specific scenario under revised fisheries management policies.

- Case 3: Mangrove management, with important ecosystem services including their role as incubator areas for fish as well as resting areas for migrating birds. Urban development is increasingly encroaching on the mangroves. In addition to business as usual and stricter enforcement of protected areas status, additional scenarios could include the establishment of a buffer zone to protect the area while enabling the development of job opportunities.

### *D. Environmental accounting as a mainstreaming tool*

30. Ms. Wafa Aboul Hosn from the Statistics Division of ESCWA presented on environmental economic accounts as a mainstreaming tool. She recalled that the United Nations System of Environmental-Economic Accounts (UNSEEA) was a measurement framework for the environment and its interrelationship with the economy, and that it applied accounting rules to environmental information, consistent with international statistical standards and recommendations such as the system of national Accounts (SNA), the International Recommendations for Water Statistics (IRWS) and the International Recommendations for Energy Statistics (IRES). She recalled that the UNSEEA was currently under review by the United Nations Statistics Commission (UNSD) and its Committee of Experts on Environmental-Economic Accounting (UNCEEA), and that the strengthening of guidance on ecosystem accounts was one of the tasks on the revision work programme. She noted that some elements of natural and biological resources were already covered by the central framework of the SEEA, and that ecosystem accounts sought to specifically enable a better understanding of what ecosystems provided in terms of both market and non-market goods and services and what attributes of ecosystems were crucial for maintaining these flows of value to society. She summarized the planned conceptual framework for such ecosystem accounts as foreseen in the revised SEEA.

31. Turning to activities in the MENA region, she gave an overview of ESCWAs activities to support the development of national statistical capacity, including a 2011-2013 project on energy statistics and projects on the green Economy in cooperation with UNSD and other regional commissions. ESCWA also facilitated bilateral cooperation, both North-South and South-South, and undertook advocacy at high level. She gave an overview of progress in implementing elements of environmental accounting in various countries in the region, in particular on water accounts, and concluded by emphasizing: (i) the continuing need to raise awareness on the usefulness of environmental-economic accounting of various governmental institutions; (ii) the need for additional funding; and (iii) the need for more pilot projects and technical assistance for developing and implementing SEEA subaccounts in accordance with national priorities.

32. In addition to raising a number of technical issues, participants in particular underscored the lack of sufficient data, both in terms of quantity and quality, as well as the lack of specific capacity for advancing environmental accounting in many countries in the region. They also supported the conclusion that more supporting activities were need in this regard, including the provision of training, and the development of guidance material that reflected the specific concerns and comments of countries.

## III. REDIRECTING INCENTIVES

### *A. Addressing harmful incentives, including subsidies*

33. Mr. Markus Lehmann (CBD Secretariat) introduced the item by referring to Aichi Target 3 of the Strategic Plan for Biodiversity 2011-2020, which committed Parties to eliminate, phase out or reform incentives which were harmful for biodiversity by 2020 and to promote positive incentive measures for the conservation and sustainable use of biodiversity, consistent and in harmony with the Convention and other international obligations, and in line with socio-economic conditions of countries. He explained that, under the Convention, harmful incentives were conceptualized as emanating from policies or practices that induced unsustainable behaviour that was harmful to biodiversity, often as unanticipated (and unintended) side effects of policies designed to attain other objectives. They could even result from some environmental policies.

34. There were many examples of harmful incentives. As regard harmful subsidies, they generally fell into two different categories types: (i) production subsidies that reduced input costs or increase revenue; and (ii) consumer subsidies leading to the below-cost pricing for the use of natural resources. Other harmful incentives could also result from some laws or regulations governing resource use, such as beneficial-use laws. He subsequently provided a number of case examples.

35. He noted that careful policy assessments were typically frequently needed to identify harmful incentives as a precondition for their elimination, phase out, or reform. In undertaking pertinent assessments, a multi-criteria, holistic approach would be useful which would also include the cost-effectiveness and the social effects of subsidies (such as distributional impacts).

36. He summarized key lessons learned from the analytical work already being undertaken on the removal or reform of harmful incentives including subsidies, namely: (i) the need for strong leadership and a broad support coalition involving key stakeholders; (ii) the use of a ‘whole-government’ approach as a critical success factor; (iii) the identification of relevant interests and how to address their preoccupations; (iii) the design and implementation of suitable adaptation policies; (iv) funding for policies/compensatory packages that offset negative social impacts; (v) improving transparency and enabling informed public debate; (vi) the smart use of political windows of opportunity.

37. In concluding, he underlined that the choice of policy packages for elimination, phase out and/or reform was much context-dependent, and this was therefore an important area of future work. For new policies, the use of strategic impact assessment was recommended. UNEP had developed a set of minimum criteria for new subsidies which would also be useful to consider.

38. Building on the earlier presentation, Mr. Patrick ten Brink of the Institute for European Environmental Policy (IEEP) presented a step-by-step guide for reform that builds on existing guidance developed by the OECD, consisting of four steps: (i) screening the subsidy policies; (ii) identifying potentials for elimination, phase out or reform; (iii) develop reform roadmaps; (iv) identifying opportunities for action. He presented a subsidy reform chart which integrated OECD tools considering the four steps above and included a series of questions which assisted in deciding on subsidy reform and the appropriate sequencing and priority setting, namely: (i) what were the expected costs and benefits from reform, and who would be involved; (ii) was there a window of opportunity; and (iii) the need for political support.

39. In concluding, he pointed to recently building policy momentum for reform activities, resulting from adaptation of the Strategic Plan for Biodiversity 2011-2020; the G-20 commitment to phase out harmful energy subsidies; and recent analytical work such as the UNEP green economy report. He

observed that there was also an increasing call for subsidy reform in the European Union and, correspondingly, increased national efforts.

40. In the discussion, participants pointed in particular to: (i) entrenched stakeholders as a major obstacle for effectively addressing harmful incentives, as well as the need for ways and means to overcome their resistance; (ii) the potential negative social impacts resulting in particular from subsidy reform; and (iii) the need to keep development windows; (iv) the role of good governance more generally.

41. Participants were subsequently invited to identify national programmes which they believed could serve as a showcase for reform, and to develop tentative policy options to address the issue:

(a) Water subsidies in oasis agriculture (Algeria): Oasis water, while very scarce, has in the past been provided freely for agricultural purposes, which led to its irrational overuse, with negative impacts on resource availability and biodiversity (e.g., through the disappearance of local birds). A programme aiming at oasis rehabilitation was put in place only after huge negative impacts had been incurred. The programme has so far not been very successful, with the lack of enforcement in restricting access to scarce water being identified as an important obstacle;

(b) Fisheries and irrigation water subsidies in Tunisia: Fishery subsidies had in the past led to overexploitation; reform activities included the introduction of compensatory packages for reduced harvests. The reform of water irrigation subsidies included the provision of subsidies for water-saving equipment;

(c) Irrigation water subsidies in the United Arab Emirates: government policies encouraged unsustainable agricultural activities and this led to increasing pressure on groundwater resources, due to over extraction, and to increased soil salinization. The gradual phase out of subsidies and a moratorium of issuing new well permits made irrigation more efficient. Additional activities included subsidizing drought tolerant plants, an awareness-raising programme for farmers for using more sustainable practices, and support for commercialization of their produce.

### *B. Promoting positive incentive measures*

42. Hugo van Zyl of Independent Economic Researches (South Africa) presented on positive incentive measures, including a discussion of a framework for considering market based instruments to support environmental fiscal reform, and the experiences with the “Work for Water” programme.

43. Referring to a recent policy paper prepared for the treasury of South Africa, he noted that there was a need for a framework to consider market based instruments and their efficiency and effectiveness in a consistent manner. Pricing key natural resources such as water could better reflect environmental damages and incentivize people to conserve it while also generating capital for better water infrastructure. He also discussed options for providing financial incentives for conservation activities on private land, in form of varying income tax deductions for land set-asides over 20 years under a broad range of commitment types (ranging from high, in form of special nature reserves, to low, in form of informal conservation). He noted that such a scheme would target high income farmers for high value land, and pointed to other options such as adjusting local property rates to incentivize conservation at the local level, PES, and direct government funding from municipal infrastructure grant sources for ecological infrastructure.

44. He also provided a synopsis of the South African “working for water” programme, including its history and evolution over time. He recalled that, responding to South African severe problems with alien invasive plants, an alien plant programme was included in 1995 as a programme in the South African

reconstruction and development programme. Job creation was an initial major motivation, and other key benefits included improved water security, biodiversity, and improved productivity of land. Since then, the programme grew from disbursement of 25 million rand to 695 million rand, with more than 26,000 beneficiaries of the programme and several offshoot programmes being put in place (working for fire, wetlands and land). Recent analyses address the possible application of private PES schemes as a way to continue the programme.

### *C. Examples from the region*

45. Mrs. Kenza Aouni of the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification (HCEFLCD), Morocco, reviewed the state of the forest heritage in Morocco, and highlighted the important challenges to maintain forests, in particular resulting from increased grazing due to high population growth and rural poverty as well as due to an increasingly sedentary mode of life which implied a move away from traditional methods of space management, and resulted in increasing animal overload. These factors lead to a weak success rate for plantations. She explained the HCEFLCD's strategy for forest grazing, which included the restoration of forest-grazing ecosystems and establishment of partnerships for co-management of forest grazing resources.

46. She highlighted the role of compensation as a tool for the management of deferred grazing forestry. Aiming at their involvement and accountability, a financial incentive was provided to user populations, which was based on the temporary redemption of the rights of users. Necessary funds were secured from the National Forestry Fund through taxes generated from the sale of forestry products. She noted that there were requests from local populations for compensation schemes in additional areas.

47. Mr. Abdennadi Abarkach of the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification (HCEFLCD) presented on access to genetic resources and benefit-sharing (ABS) as an incentive for conservation and sustainable use in Morocco. He explained that Morocco had a significant interest in the ABS theme given its rich endemic resources, especially argan trees and aromatic and medicinal plants, and emphasized that, in the argan value chain, currently, about 90% of the added-value was realized outside of Morocco, implying a considerable value drain. The Ministry of Environment of Morocco, in partnership with the High Commissariat for Water, Forestry and Combat of Desertification worked together on first legal orientations towards a national ABS framework. Internal capacities existed (in particular due to several capacity-development workshops organized under the lead of the ABS capacity-development initiative for Africa) but they need to be reinforced, and financial resources need to be raised accordingly. A number of project proposals to this end are currently in the GEF and GIZ pipeline.

48. Mr. Pascal Abdallah presented recent activities to promote ecotourism in Lebanon. Referring to recent forecasts predicting future growth of eco-resorts and hotels, and a boom in nature tourism, which was growing at 20% a year, he said that early converts to sustainable tourism were likely to make significant market gains. He pointed to a number of related success stories in Lebanon, including by pointing to visitor statistics for Al-Shouf Cedars Biosphere Reserve, which showed significant increases over the past decade. In concluding, he pointed to the urgent need for enhanced supportive policies and strategies, and in particular for enhanced marketing.

49. In the discussion, participants (i) emphasized the need for payments for ecosystem services to be pro-poor, and that this would not result automatically in all cases; (ii) noted the intricacies and possible limitations of co-management approaches involving the devolution of power; (iii) pointed to the recurrent need to achieve the financial sustainability of payment schemes, noting in this context that monetary payments may not be appropriate in all cases. They also discussed the potential role of ecotourism in their countries, as well as its role and relative importance of more traditional forms of tourism.

## IV. USING TEEB APPROACHES AS MAINSTREAMING TOOLS

### *A. TEEB, the Green Economy, and Rio+20*

50. Mr. Fareed Bushehri of UNEP ROWA presented on the linkages between TEEB and the Green Economy as proposed by UNEP in its Green Economy Report. He presented the definition of a green economy as suggested by UNEP – one that resulted in improved human well-being and social equity whilst reducing environmental risks and ecological scarcities, one that was low carbon, resource efficient and socially inclusive. He explained that a range of indicators could help measure the transition towards a green economy, including economic, environmental and social indicators. He noted that the green economy could create jobs in a wide range of sectors e.g. organic agriculture or renewable energy, and explained that these were decent jobs with high labour productivity as well as high eco-efficiency and low emissions. Pointing to the potential opportunities for developing countries to attain economic and social gains in deployment of cleaner technologies and improved access to energy services, cleaner production, and increased food security, he explained that the objective of UNEP's green economy initiative (GEI) objective was to advise countries in greening their economies by working with a wide range of partners to provide cutting-edge economic analysis and research products. In concluding, he pointed to recent green economy advisory services that had already been extended to countries in Africa, Asia and the Pacific, Europe and West Asia, as well as to Jordan as an example from the Arab region, which recently launched a scoping study on priority areas for the green economy.

51. Mr. Ricardo Messiano (ESCWA) presented on the role of TEEB on the road to the Rio+20 Conference. Pointing to the Green Economy as one of the topics of the Conference, he noted the role of TEEB as a potential connector between the 3 pillars of sustainable development, with one important lead question being how to achieve the interaction with sustainable development objectives in practice. Pointing to the need to assess the gaps in implementation of sustainable development 20 years after the Rio Conference, against the commitments taken 20 years ago, and on how to address new and emerging challenges, he explained the process of preparing for the Rio+20 Conference in the region lead on behalf of ESCWA, UNEP ROWA and the League of Arab States. A number of preparatory meetings were already held in the region engaging different stakeholders, such as the trade and environment sector, the private sector as well as finance ministries.

52. A vivid discussion followed these two presentations, in which participants noted the need to develop further conceptual clarification of the linkages between the green economy and the sustainable development paradigms. In particular, some participants noted that the green economy concept was seemingly addressing mainly the economic and environmental pillars of sustainable development, and expressed their concern that the social pillar would incur the risk of being increasingly perceived as an add-on or afterthought.

### *B. Economic approaches in implementing multilateral environment agreements (MEAs)*

53. Ms. Diane Klaimi (UNEP ROWA) gave a presentation on working together and achieving synergies in implementing multilateral biodiversity agreements, and the pertinent experiences in the region. She explained that UNEP-ROWA had a significant focus on providing support for strengthening national implementation of MEAs. Noting that MEAs were global instruments for environmental governance, coordinated mechanisms that combined Governments, NGOs, private sector, local and indigenous groups that lead to globally agreed decisions, she said that there was a need for further collaboration between stakeholders with a view to realize potential synergies and achieve more coherent implementation of different MEAs and stronger environmental governance in general. Noting the usefulness of national biodiversity strategy and action plans, in achieving synergies between

biodiversity-related conventions and implementing the Aichi Targets of the Strategic Plan for Biodiversity 2011-2020, she said that responses from the Arab region for the proposed NBSAP revision could include promoting synergies with CITES implementation, for trade-related incentives, as well as measures to remove harmful incentives.

54. Mr. Hamed Daly of INRGREF presented the Ecosystem Vulnerability Analysis (EVA) methodology and its Economic Impacts by referring to an assessment of the economic losses incurred by the impact of climate change in Tunisian ecosystems, with focus on the Cork Oak ecosystem situated in the Northwest of Tunisia. He explained that this area was considered a hotspot in terms of biodiversity at the global level. The methodological approach included a vulnerability analysis based on several variables including climate indicators socio-economic factors. The approach allows testing hypotheses on potential drought-related risk effects, based on research on similar impacts of the 1987-1990 drought period, including assessments of impacts on ecosystems' goods and services.

55. Ms. Siv Oytese of the Global Mechanism of the UNCCD presented the work of the Global Mechanism on incentives for achieving sustainable land management, in particular the framework and score card methodology developed by the Global Mechanism and CATIE on incentive and market based mechanisms. She underlined that positive incentives were needed to ensure investments in sustainable land management, and that policymakers and concerned stakeholders needed more knowledge and technical capacity on the real value of natural capital and ecosystem services, and that the scorecard was developed as a tool to assist decision makers in selecting the appropriate incentive measures in accordance with their specific conditions and circumstances, and no how to implement them in an effective and efficient manner.

56. In the discussion, participants made particular reference to the linkages between climate change and increased threats to biodiversity and associated ecosystem services, as well as the subsequent consequences for human well-being, pointing to the increased frequency of severe sand storms in many parts of the region as concrete example. While recognizing the potential synergies in particular in undertaking adaptation activities, some participants also pointed to possible limitations and the need for adequate funding in all cases.

### *C. Strengthening TEEB approaches: the way ahead*

57. Ms. Chloe Hill of the TEEB coordinating office of UNEP presented the current programme and associated activities to support countries in making use of the results of the global studies on the Economics of Ecosystems and Biodiversity ("TEEB Phase III"). She explained that TEEB Phase III had four operative components: (i) strengthening of the TEEB network of experts; (ii) promotion of outreach and communications; (iii) supporting the development of sectoral studies; and (iv) supporting and facilitating TEEB implementation at the national level.

58. With regard to national TEEB studies, she noted that some countries had already started this process, and that interest had been shown by others, and that support would be provided to: facilitate design and implementation of TEEB projects at the national and local levels; (ii) connect projects to each other and/or to funding options; (iii) support new initiatives in the business world; and (iv) assist in the translation of the reports into policy. The TEEB office in Geneva would provide guidance via the TEEB network of experts in order to build national, regional and local government capacity and to support the production of national-level economic assessments, namely:

- For developed countries UNEP will facilitate by putting relevant experts in contact with each other, but will not actively participate in the development of national studies nor provide funding;

- For developing countries, UNEP will take a more active and participatory role, possibly including the more direct involvement in country level studies and provision of some funding support.

59. She subsequently distributed a survey questionnaire to all participants and asked for its completion with a view to enable the UNEP TEEB office to guide national plans and TEEB/ecosystem valuation processes via the TEEB network of experts, and help source funding where possible.

60. Mr. Markus Lehmann (SCBD) presented how TEEB and work on valuation and incentive measures was integrated in the Strategic Plan for Biodiversity 2011-2020, making particular reference to Aichi Targets 2 and 3, and mapped out a number of options of how to incorporate strengthened work on these issues in revised national biodiversity strategy and action plans (NBSAPs). He recalled that the Conference of the Parties, at its tenth meeting, urged Parties to review and, as appropriate, revise and update, NBSAPs to reflect the Strategic Plan for Biodiversity 2011-2020 and its Aichi Targets. He also recalled that, in preparation for the tenth meeting of the Conference of the Parties, an analysis had been undertaken by the United Nations University which highlighted that many NBSAPs did not adequately address the underlying causes of biodiversity loss, and that the new Strategic Plan put accordingly more emphasis on mainstreaming biodiversity across economic sectors and society. Recognizing that the TEEB approach was a key tool for mainstreaming biodiversity and integrating values into relevant strategies and national policy processes, he presented, in concluding, a number of options on how to integrate pertinent activities into revised NBSAPs.

61. A roundtable was held to enable participants to discuss these plans in more detail, including their concerns about undertaking TEEB studies in their countries. A statistical synopsis of the results of the survey is provided in annex II. Participants also discussed, in table groups, options on how to ‘translate’ Aichi Biodiversity Targets 2 and 3 into national policies.

## V. EVALUATION AND CLOSURE OF THE WORKSHOP

62. A summary of the evaluation of the workshop is provided in annex II. Participants also discussed next steps in advancing implementation of tools, methodologies and approaches associated with valuation and incentive measures in the Arab region, and agreed on a list of prioritized future activities. This list is provided in annex III of the present report.

63. After the usual exchange of courtesies, the workshop was officially closed at 5 p.m. on Thursday, 23 February 2012.

*Annex I*

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*Annex II*

### *1. Workshop Evaluation Questionnaire*

- 11 questionnaires were completed and returned. 10 out of the 11 questionnaires stated that the course had met their expectations, and one participant said that it had not as they still were not sure what to do next vis a vis TEEB and still did not quite understand the concepts.
- The most useful parts of the course identified were the TEEB stepwise approach, lessons learned from the region, mainstreaming biodiversity, valuation methods, positive and negative incentives, and practical exercises to consolidate the learning experience.
- These participants felt that they had gained a deeper insight into the steps/process/tools required for conducting and/or commissioning a TEEB study, particularly through the exchange of regional and global experiences, and now had a stronger understanding of the importance of ecosystem service values and the benefits of ecosystems and biodiversity.
- The general ratings of the workshop were average to good, with many of these participants stating that the course was conducted at too fast a pace and perhaps did not go into sufficient detail.
- Suggestions for course improvements were made as follows: (i) allocate more time for group discussions and feedback; (ii) provide more practical examples from the region; (iii) arrange field visits to case study sites perhaps for one day of the workshop; (iv) provide participants with material before the workshop (and perhaps request participants to take a short online training before the workshop so that all workshop participants have a similar level of knowledge before the workshop starts); (v) use more interactive training methods during the workshop; (vi) use more case studies based on country experiences; (vii) have options for more in depth technical training on specific topics and training targeted for the national economists who will be conducting the TEEB studies themselves; (viii) have a workshop dedicated to the stepwise approach only.

### *2. Survey on TEEB national plans and projects*

- 14 surveys were completed, out of which 3 countries had already initiated some TEEB related activities (Egypt, Abu Dhabi and Tunisia), including the strengthening of protected area financing and management systems and wetland valuation in Egypt, the valuation of mangrove ecosystems in Abu Dhabi, and the valuation of forest ecosystems in Tunisia (an activity which has already been finalized). All projects requested assistance from the UNEP-TEEB office in Geneva for technical support and capacity building regarding TEEB national studies.
- The remaining 11 did not have TEEB plans or projects underway and reasons identified are: (i) no funding available, (ii) no capacity or skills in country to conduct a TEEB like study, (ii) gaps in understanding what is needed to do a TEEB national study. However, many of these countries that currently do not have TEEB plans or projects indicated to be interested in conducting one in the future.

*Annex III*

## PRIORITY ACTIVITIES FOR ADVANCING APPLICATION ON THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB) IN THE ARAB REGION

(a) Convene further training workshops on TEEB covering:

(i) methodologies,
(ii) policy responses,
(iii) mainstreaming,
(iv) incentives, reforms of harmful subsidies,
(v) valuation & pricing tools for ecosystem services,
(vi) practical finance mechanisms: innovative mechanisms example PES,
(vii) national accounting.

(b) Prepare national, subnational or regional TEEB studies with UNEP-TEEB office in Geneva as facilitators;

(c) Support to the drafting of proposals for pilot TEEB projects and presentation to donors by organizations such as Global Mechanism, UNEP-ROWA, UNEP-TEEB, GIZ and SCBD;

(d) Prepare a regional TEEB thematic report for the Arab region: wetlands, mountains, forests, marine ecosystems, desert ecosystems;

(e) Stocktake of good lessons learned from GIZ studies in North Africa and Middle East and replicate further into the West Asia region;

(f) Connect to the TEEB Email list network/platform for further communication for information sharing and TEEB newsletter.

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